

**INTEGRATED CIRCUIT COMPRISING A DAC WITH PROVISION FOR SETTING THE  
DAC TO A CLEAR CONDITION, AND A METHOD FOR SETTING A DAC TO A CLEAR**

**Cross-reference to Related Application(s).**

5 **Field of the Invention** This application claims benefit U.S. Provisional Patent Application serial  
No 60/431,908, filed December 09, 2002.

10 The present invention relates to an integrated circuit comprising a digital-to-analogue converter (DAC) with provision for setting the DAC to a clear condition, and in particular, though not limited to a multi-channel circuit comprising one DAC in each channel with provision for setting the respective DACs to a clear condition. The invention also relates to a method for setting a DAC in an integrated circuit to a clear condition.

**Background to the Invention**

Multi-channel integrated circuits comprising a DAC in each channel are known. Typically, such multi-channel integrated circuits receive digital data which is to be  
15 converted to analogue signals, and the respective analogue signals are outputted on analogue output terminals of the respective channels corresponding to the DACs. An interface and control logic circuit is provided in the integrated circuit for selectively transferring the digital data to respective ones of the DACs for conversion thereof to analogue output signals. In general, such circuits comprise a clear terminal to which a  
20 clear signal is applied for setting the DACs to a clear condition. The interface and control logic circuit reads the clear terminal, and on reception of a clear signal the interface and control logic circuit sets the DACs to the clear condition. This requires setting the digital words in DAC registers corresponding to the respective DACs to zero. Ideally, when the DACs are set to the clear condition, the analogue voltage appearing on the output  
25 terminals of the corresponding analogue channels should be a predetermined voltage, and in general, with the digital words in the respective DAC registers set to zero, the analogue output voltage appearing on the output terminals of the analogue channels should be zero volts. However, due to voltage offsets in the DACs, and in the analogue parts of the respective channels, the analogue output signals on the analogue output terminals, in  
30 many cases, is not zero or other such predetermined voltage when the DACs are set in the clear condition. This is undesirable.

There is therefore a need for an integrated circuit comprising a DAC with provision for setting the DAC to a clear condition which overcomes this problem. There is also a need for an integrated circuit with a plurality of channels having a DAC located in each  
35 channel with provision for setting the respective DACs to a clear condition which